



# **Standards and the Government-Industry Data Exchange Program**

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# GIDEP Mission

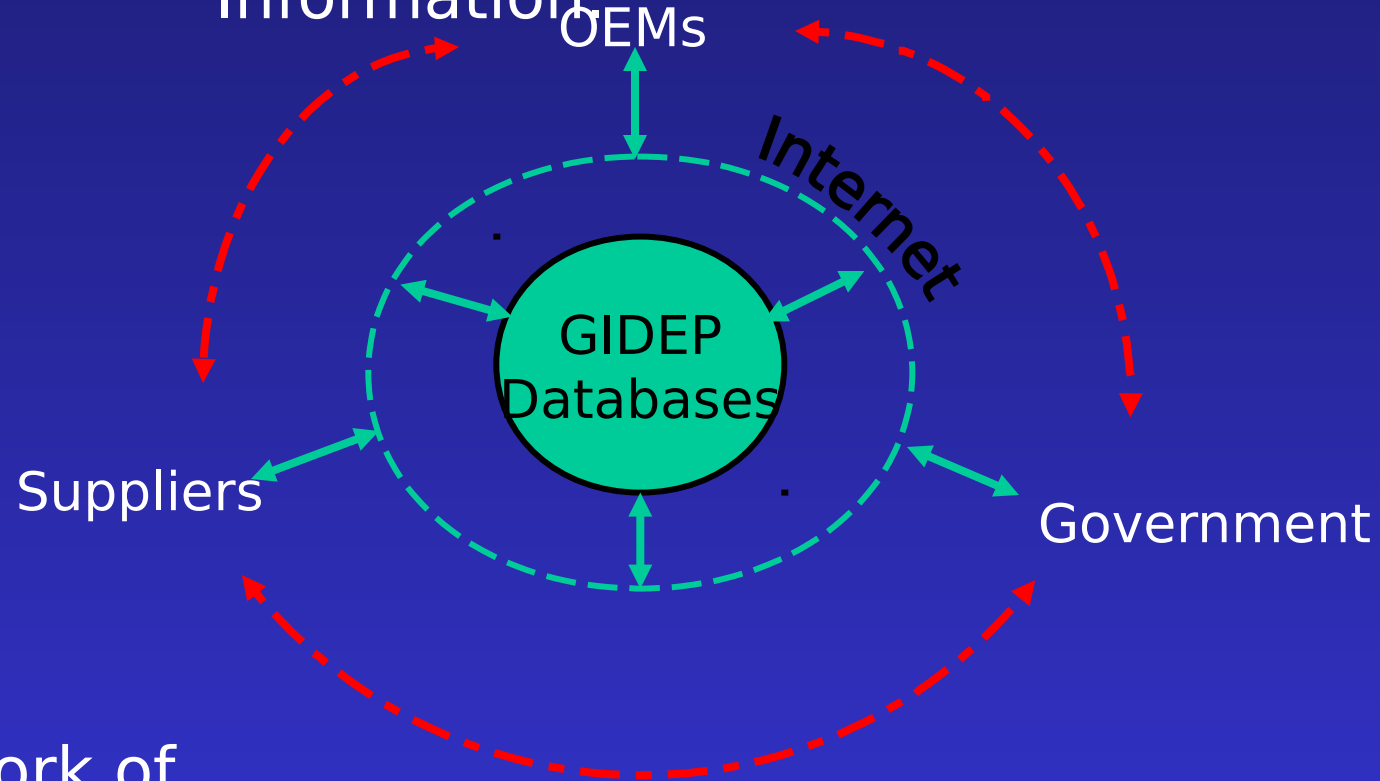
- Chartered by the Department of Defense Joint Logistics Commanders to foster technical information sharing among Government and Industry partners to:
  - Increase systems' safety, reliability, and readiness
  - Reduce systems' development, production, and ownership costs

# GIDEP Goals

- Share information that would not otherwise be shared in a competitive environment
- Act as the honest broker of fact-based technical information

# GIDEP Is:

A Partnership Between Government & Industry  
Teamed to Share Technically Valid, Fact-Based  
Information.



- Active Network of People
- Web-Accessible

# GIDEP is...

## GIDEP Data & Information

Diminishing Manufacturing Resources  
Calibration Procedures  
R&M Methodology  
Failure Analysis  
Test Reports  
Non-Standard Parts  
Urgent Data Request  
Engineering Reports  
R&M Predictions  
Product Change Notices  
Soldering Technology  
Process Specifications  
Product Information Notices  
Technical Manuals  
Metrology Documents  
Problem Advisories  
Safe ALERTS  
ALERTS  
Agency Action Notices  
R&M Statistics  
Management Reports  
Source of Supply  
Computer Technology  
Lessons Learned

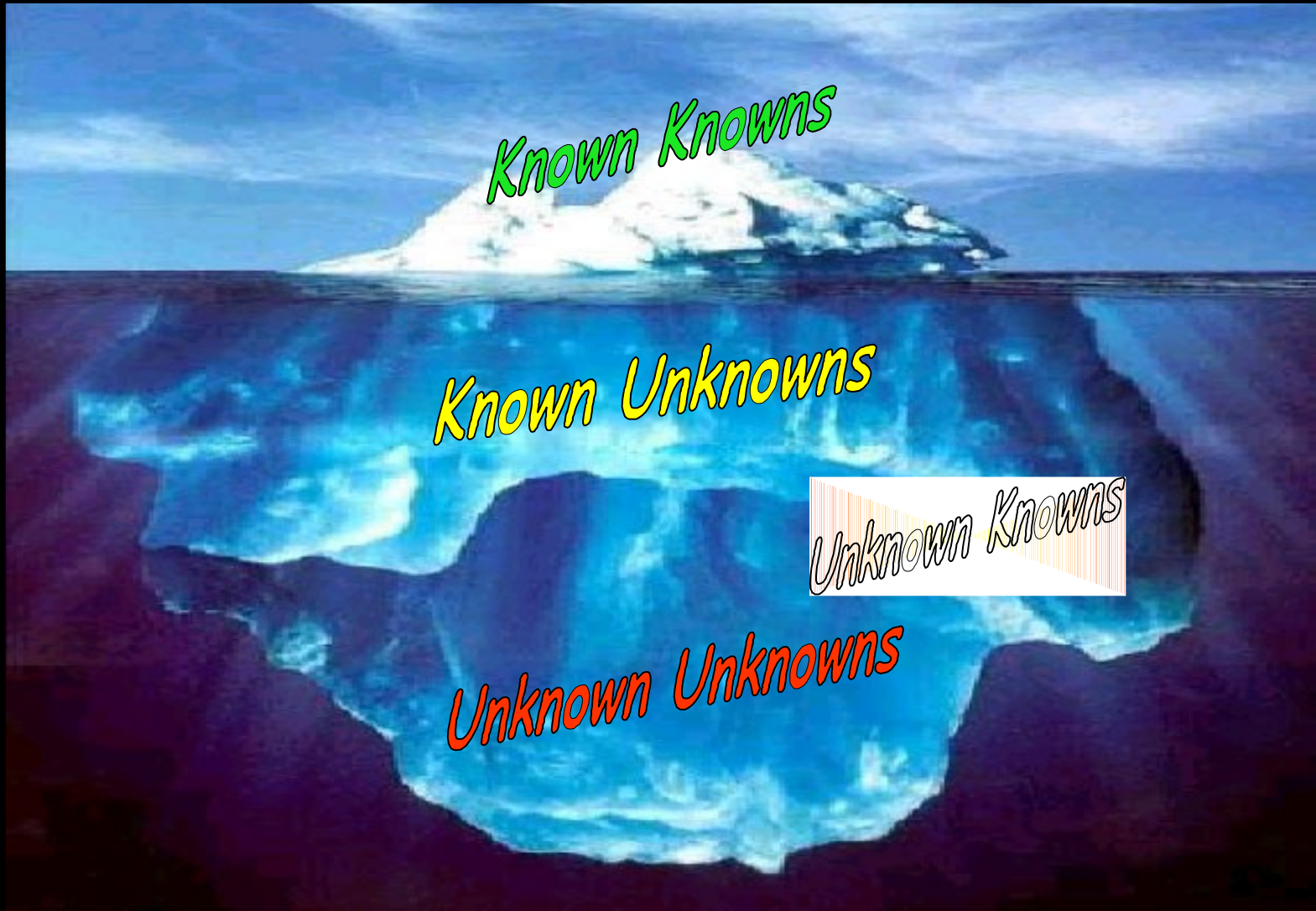
## GIDEP Products & Services

Batch Match  
Metrology DVD  
Help Desk  
Newsletters  
Weekly Data  
Weekly Parts  
Weekly News  
PURS  
Management Meetings  
Clinics  
GIDEP Forum  
Workshops  
Hands On Training  
Tailored Events  
Single Parts Search  
Teaming Data Base  
Mentors Listings  
DataBase Output Reports  
Participant Directory  
Regional Training  
Source of Supply  
Auto BOM notification  
Urgent Data Request for Information



**A source of the Unknown  
Knowns - Have you checked  
GIDEP today?**

# Strengthen Engineering Processes: The Risk Iceberg





# The Four Levels of the Risk Iceberg

- Known Knowns
  - Flight Data
  - Demonstrated performance
  - Flight or test-validated analysis, simulations and models, operation within certification limits
- Risk Mitigation: sound program, engineering, and operational management, Test as you fly (understanding waiver implications)
- Known Unknowns
  - Generic but unseen failure modes and hazards
  - Risk analysis uncertainties
  - Acknowledged test and analysis limitations
  - Unverified modeling and simulation based predictions
  - Envelope expansion and operations within certification but out of family
- Risk Mitigation: conservative flight rules, technical standards and safety factors, attention to anomalies, trending, prove it is safe



# The Four Levels of the Risk Iceberg

- Unknown Knowns
    - Mis-communicated test or analysis results
    - Hesitancy in coming forward with issues
    - Uneven understanding of data or environment
    - Poor documentation combined with loss of corporate memory
  - Risk Mitigation: clear organizational structure, open and upward communications, peer review, skill retention, contractors as true team members
- 
- Unknown Unknowns
    - Bad assumptions
    - Untested new or changed environments
    - Inadvertent operation outside of certification limits (temperature, Q, tire speed, etc.)
    - Unknowable complex interactions
  - Risk Mitigation: research and testing, challenging past assumptions, independent assessment

# A Grim (sic) Fairy Tale

Once upon a time ...

- Parts selection based on published specs
- “De-rating” was all the rage

Now ...

- Parts selected based on the attributes shown in the published spec sheets
- “Up-rating” is sometimes required

# From the Global Production Super Highway

- Industry and Commercial specs and standards meet broadest needs
- Manufacturers build the most commonly used parts
- Parts frequently meet the military and space needs

# ... To The Road Less Traveled

- Then reality sets in.
  - Military environment: still harsh.
  - Military procurement: using more COTS.
  - Challenge: ensuring parts selected will work
- When used beyond the advertised spec the ALCHEMY begins

“Off-label” - Beyond the boundaries contained on the product label (chemicals

# Understanding the Alchemy

How did integrator decide part was acceptable?

- Made from?
- Tested to?
- Supportability implications?
- ECP and T&E implications?
- Legal implications?

# GIDEP's Role

- GIDEP is a tool for sharing technically valid, fact based information
- Establish a convention for discussing up-rating:
  - processes/procedures
  - lessons
  - other implications
- A feedback loop to Specifications and Standards developers and others

GIDEP:

A source of Unknown  
Knowns -

Have you checked GIDEP  
today?